

In re Patent Application of:
COBB ET AL.
Serial No. 09/393,639
Filing Date: September 10, 1999

carrier signal extracted therefrom to derive said data signal.

A3
4. (Amended) A method according to claim 3, wherein said data signal is encoded with a forward error correction code, and further including the step of decoding the encoded data signal to recover said information from said data signal.

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6. (Amended) A method according to claim 27, wherein the offset comprises a spreading waveform.

7. (Amended) A method according to claim 27, wherein generating the QPSK waveform comprises multiplying the carrier signal with the digital signal.

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8. (Amended) A method according to claim 27, wherein the offset comprises a direct current (DC) voltage.

Sub 12
9. (Amended) A communication system comprising:
a quadrature phase shift keyed (QPSK) waveform generator for generating a QPSK waveform based upon a carrier signal and a data signal, the data signal being representative of information to be transmitted and comprising I and Q components, and said QPSK waveform generator biasing at least one of the I and Q components with an offset prior to generating the QPSK waveform; and
a transmitter for transmitting the QPSK waveform produced by said QPSK waveform generator.

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14. (Amended) A communication system according to claim 9, wherein the offset comprises a spreading waveform.

Please cancel Claim 15.

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Please amend Claims 16-18, 21-23, and 26 as follows:

16. (Amended) ~~B~~ A communication system according to claim 9, wherein the offset comprises a direct current (DC) voltage.

~~Sub B2~~ (Amended) A method comprising the steps of:
(a) providing a carrier signal comprising in-phase (I) and quadrature (Q) components;

(b) providing a data signal comprising I and Q components and biasing the I and Q components of the data signal with at least one offset; and

(c) combining the I and Q components of the carrier signal with the biased I and Q components of the data signal, respectively, to produce a quadrature phase shift keyed (QPSK) waveform.

~~13~~ 18. (Amended) A method according to claim ~~11~~¹², further including the steps of:

(d) transmitting the QPSK waveform produced in step (c);

(e) receiving the QPSK waveform transmitted in step (d);

(f) conducting non-regenerative recovery of the QPSK waveform received in step (e) to extract said carrier signal therefrom; and

(g) processing the QPSK waveform received in step (e) using the carrier signal extracted therefrom in step (f) to recover said data signal.

~~A1~~ 21. (Amended) ~~B~~ A method according to claim 17, wherein the offset comprises at least one of a spreading waveform and a direct current (DC) voltage.

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22. (Amended) A method according to claim 21,
wherein combining comprises multiplying the I and Q components
of the carrier signal with the biased I and Q components of the
data signal, respectively.

Sub 23. (Amended) A method comprising the steps of:
(a) receiving a quadrature phase shift keyed (QPSK)
waveform having in-phase (I) and quadrature (Q) components of a
carrier modulated with I and Q components of a data signal, at
least one of the I and Q components of the data signal being
biased by an offset; and

(b) conducting non-regenerative recovery of the QPSK
waveform received in step (a) to extract said carrier signal
based upon the offset.

26. (Amended) A method according to claim 23,
wherein the at least one offset comprises at least one of a
spreading waveform and a direct current (DC) voltage.

Please add new Claims 27 and 28.

Sub 24. A method of transmitting information comprising
the steps of:

providing a data signal representative of the
information and comprising in-phase (I) and quadrature (Q)
components;

biasing at least one of the I and Q components with
an offset;

generating a quadrature phase shift keyed (QPSK)
waveform based upon a carrier signal and the at least one
biased component; and

transmitting the QPSK waveform.